

Cambodian Problem

25X1	No Date	Blind Memo re <u>Logistic Requirements and Flows: A Look at [] Roadwatch Reporting, and Losses</u>	
	No Date	Blind Memo re <u>MACV on Arms Shipments to Cambodia</u>	
25X1	29 Aug 69	[] to Ch/D/I memo re Explanation of the [] Tables (tables prepared to illustrate the effects of using a stockpiling factor and of using the more complete IDHS Mission Summary File instead of the COACT file on estimates of throughput re Laotian Panhandle)	25X1
25X1	17 Sep 69	[] to Ch/D/I memo re New Sources of Information on Delivery of 107mm Rockets and Other Ordnance to Rear Service Group 100 in Southern III Corps	
	No Date	Blind Memo re <u>Evaluation of [] Report on Supply Shipments to the VC []</u> <u>14 August 1969</u>	25X1 25X1
25X1	10 Sep 69	[] to Ch/D/I memo re A Reappraisal of the Cambodian Supply Route	
	29 Aug 69	Pacific Command Intelligence Digest Number 18-69, 29 August 1969, <u>Logistical Importance of Cambodia to the VC/NVA</u>	

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10 September 1969

MEMORANDUM FOR: Chief, D/I

SUBJECT : A Reappraisal of the Cambodian Supply Route

25X1 1. [] reporting [] provides complementary and corroborative evidence of a Peking-Phnom Penh agreement, effective from December 1966 until early May 1969, authorizing the shipment of Chicom supplies -- munitions included -- to Sihanoukville for forwarding through select channels to Vietnamese Communist forces in South Vietnam. Numerous questions remain to be resolved concerning the types and quantities of supplies provided, and the division of these supplies between FARK and Communist forces. There is little doubt, however, that during its effective period, the agreement gave the Vietnamese Communists a capability to channel logistical support through Cambodia, with little or no restrictions as to the content and volume of the shipments. Although the quantities reportedly moved through this channel have not been validated, they could have covered the estimated requirements of Communist forces in II, III and IV CTZ in the period December 1966-April 1969.

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2. The agreement authorizing the Cambodian supply route reportedly was arranged by Chou En-lai and the Cambodian Defense Minister Lon Nol, and approved by Sihanouk. The operation employed civilian transport equipment and facilities under the supervision of a select group of officers responsible to Lon Nol. [] reporting indicating Sihanouk's blessings of the operation from its inception, it is unreasonable to assume that the large quantities of munitions channeled to the Communists through this system could have moved without Sihanouk's knowledge and approval.

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3. The entire supply operation was halted by Sihanouk in early May, however, apparently because of his conviction that the Vietnamese Communists were supporting insurgent operations in the northeast. In response to Communist appeals, the shipment of foodstuffs was resumed in early July, but apparently only on a limited scale. There is no evidence that munitions are now being forwarded, although large quantities of munitions consigned to the Vietnamese Communists -- reportedly several thousand tons -- apparently remain in FARK hands. Whether Sihanouk will authorize their release will depend upon in part the extent to which the Communists satisfy him that they will not foment and support insurgency, and in part on his estimate of the eventual balance of power in South Vietnam. For their part, the Vietnamese Communists will undoubtedly seek to regain free use of the Cambodian logistic channel while maintaining their capability to support their forces via the overland route through Laos.

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Evaluation [] Report on Supply Shipments
to the VC []

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Volume of Supplies

[] the 15,000 tons of supplies delivered to the VC were sufficient for "three years fighting." The tonnage reportedly delivered included all kinds of military supplies but no food, the equivalent in US terminology to the total of Classes II, IV, and V. It is not clear whether the "three year estimate" applies for all of South Vietnam, or just those areas of South Vietnam that would be supplied from Cambodia. [] []

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[] would probably have been knowledgeable of both sets of requirements. However, it is most likely that he was referring to the requirements consumed in areas under the control of COSVN, roughly equivalent to OER's estimated requirements for southern II, III, and IV Corps. The OER estimate for three years of these Classes of supplies at the estimated 1967 consumption rates totals 10,000 tons.* [] estimate is 50 percent higher than OER's. In view of the numerous possibilities for error in estimating enemy logistical requirements [] is not unreasonable.

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* For all of South Vietnam three years requirements at the estimated 1967 rate for the appropriate classes of supplies amounts to 18,000 tons.

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25X1 [] that between May 1967 and the spring of 1969 an additional 10,000 tons of supplies were carried to the VC including 6,000 tons of arms. The remaining 4,000 tons consisted of food and other soft supplies. If it is assumed that one-half of the 4,000 tons consisted of food, then about 23,000 tons of Classes II, IV, and V supplies were delivered to the Communists between December 1966 and May 1969, a two and a half year period. Thus, deliveries would have averaged about 9,200 tons a year compared to 5,000 tons a year (15,000 ~~for~~ 3) which was reported []

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25X1 [] This discrepancy doesn't necessarily contradict []

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25X1 [] because he was probably referring to requirements in 1967.* The escalation of the war in South Vietnam after 1966/67 undoubtedly increased these requirements. None of our calculations, however, would indicate that they increased by over 80 percent, the increase implicit in an increase of from 5,000 to 9,200 tons a year.

* OER's estimate of enemy requirements for the period December 1966 through May 1969, a 2.5 year period, total 14,000 tons rather than 10,000 tons. []

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Shipping

During the period October 1966 through May 1967, 12 Communist Chinese flag vessels called at Sihanoukville and delivered more than 36,000 tons of cargo.* Of this total nearly 29,000 tons were identified [REDACTED] as commercial cargo, such as cement, foodstuffs, and metals. Identification of the remaining 7,500 tons is spotty; 4,200 tons were unidentified, almost 1,000 tons were identified as military, and 2,300 tons were reported as military. Although there were a number of Free World ships calling at Sihanoukville under charter to China during this period, it is highly unlikely that they carried military cargoes.

Thus, only some 3,300 tons of military and reported military cargoes entered Sihanoukville during the period under review. Even if all of the 4,200 tons of unidentified cargo is assumed to have been military, only 7,500 tons would have entered through Sihanoukville. This would mean that if 12,500 of supplies were delivered [REDACTED] about 5,000 tons, would have

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had to consist of non-military supplies. Thus from available shipping data the share of military goods

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to the VC could have ranged from 25 percent to 60 percent. The lower figure assumes that all reported military goods were indeed military. The upper figure is based on the unrealistic assumption that all unidentified deliveries were military.

For even large volumes of military goods to have arrived during the time period, these supplies would have had to arrive: (1) on vessels unnoted in the intelligence community; (2) as part of cargoes described as cement, metals, and so forth; (3) as cargoes over and above registered deliveries. Alternative (1) would be highly unlikely.

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any reliable indication that such large volumes of suspect cargo arrived in Sihanoukville before May 1967. Alternatives (2) and (3) would be very unusual, and such practices do not appear to have been followed in recent suspect Chinese voyages to Cambodia. In conclusion, it appears that no more than 7,500 tons of military supplies, and probably much less, were delivered to Sihanoukville for the Communists before May 1967.

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Overland Route

1. [] source to claim that large quantities of rockets were moved south from Attapeu to Cambodia and hence to the VC. The length of the rocket, reported [] to be approximately 120 centimeters (47.3 inches) is close to the length of the Soviet 140 mm rocket (length of round 42.8 inches, length of launcher 45 inches). As far as is known the Chinese do not produce the 140 mm rocket, which is a possible explanation, assuming [] reporting is correct, as to why the rockets moved overland into Cambodia rather than being shipped through Sihanoukville. The reported tonnages moved, 2,000 tons, would include up to 28,000 rockets, including packaging and launchers. This is an impossibly large number of rockets. During the first six months of this year only 7,000 rockets of all South Vietnam calibers were fired in all of []. Furthermore, more than 90 percent of the rockets fired are 122 mm and 107 mm rockets. Historically only negligible numbers of 140 mm rockets have been fired or found in caches.

2. OER has never identified the southward flow of munitions

[] However, the Communists did have the capability at the reported time for moving supplies over the route indicated

[] The movement of 2,000 tons from Laos to Cambodia during the December 1966 - May 1967 period

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would equal about 11 tons per day. Assuming the use of ^a 3-ton capacity truck this would have required about 4 truck loads per day.

3. The rockets moved during the dry season so that road conditions would have been favorable. [] the shipment began at Attapeu, it not being clear [] to the town of Attapeu or the province of Attapeu. Movements from the city of Attapeu would have been difficult as the town was controlled by FAR forces at that time, as was most of Route 16 south to Route 110. However, southbound movement could have occurred from depots and transshipment points in Attapeu Province on Routes 96/110.

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4. By the end of May 1966, Route 96 had been extended from south of Chavane to the Cambodian border. The road was estimated to have been about 7-9 feet wide and suitable primarily for dry season movement. Route 110 also was completed at this time, extending east from the Cambodian border at the junction with the Se Kong river to its intersection with Route 96 in the tri-border area.

5. Although the roads were open, roadwatch reports through May 1967 from several teams along Routes 92 and 96 indicate a southbound level of truck traffic too low to support an average of 4 trucks a day. The same was true for Route 110 during the period.

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Pilot reports of truck sightings on the southern portions of Route 96 and on Route 110 during the period also were less than 4 trucks per day. However, as has been pointed out in other reports and briefings we believe that both pilot sightings and roadwatch reporting probably understate truck traffic in the southern Panhandle.

6. River traffic on the Se Kong from the Cambodian border south was reported on by various sources of undetermined reliability during December 1966 - May 1967. Most of the sources reported on movement of boats travelling north on the Se Kong to the Laotian border. However, some did indicate movements of supplies south and reported numbers of boats large enough to move well over 2,000 tons during the 6-month period ending May 1967. Therefore, if the supplies were moved to the Cambodian border at the Se Kong they could have been shipped farther south into Cambodia from Laos. One of the sources reporting on the river traffic was a Laos official who obtained his information from a coolie who worked on one of the motorboats between 5-10 December 1966. He said about 200 motor boats were involved in supply activity that was continuing around the clock. The coolie said foodstuffs and other cargo was moved up-river and on the return trip a number of boats carried

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ammunition and grenades to Ban Khalong (near Stung Treng).*

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Another source [] who defected on []

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[] He said that he knew that 20-30 boats worked the
Se Kong each night and that each boat carried up to 2 tons.**

* If one quarter of the 200 boats carried ammo and grenades
and each boat could carry about 3 tons about 150 tons could be
carried on each return trip. It would take only 14 return trips
to carry 2,000 tons.

** If each boat averaged a one-ton load and made trips into
Cambodia and returned the next day, 25 of them could carry about
375 tons a month or 2,250 tons over the six-month period.

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17 September 1969

MEMORANDUM FOR: Chief, D/I

SUBJECT : New Sources of Information on Delivery of 107mm
Rockets and Other Ordnance to Rear Service
Group 100 in Southern III Corps

1. Two new sources [redacted]
have given us valuable new evidence on transport of ordnance to
RSG 100 in the Cambodian-South Vietnamese border area in southern

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2. Although neither source has had his bona fides established, the striking similarities between their reports lend them considerable credence. Both sources state that convoys brought ordnance to speci-

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fied areas north and south of Route 1 near the South Vietnamese border as often as 3 times a month and as seldom as once every 2 months. According to both sources the trucks, which are driven by Cambodian army soldiers, arrived at their delivery points around midnight. The ordnance boxes were hidden beneath bananas that were carefully unloaded and reloaded onto the trucks when the boxes were emptied. Source 1 said that the ordnance came from Phnom Penh while Source 2 said only that it came from Cambodia.

3. Both sources include 107mm rockets (H-12's) in their lists of the types of ordnance transported to RSG 100 in this manner. Although a considerable number of these weapons have been used in III and IV Corps since January 1968, these 2 sources are the first to give a fairly comprehensive explanation of the supply route over which they are moved. The conspicuous absence of the 107's from the types of ordnance listed [redacted] leaves no firm basis to support the north-south supply route to southern III Corps for this particular weapon. The case for Cambodia as a source of supply for other weapons is not so conclusive, but the reports from these 2 sources cannot be summarily discredited.

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Analyst, Logistics Branch

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MACV on Arms Shipments to Cambodia

1. A recent article on ^{the} logistical importance of Cambodia to the VC/NVA forces in the PACOM Intelligence Digest* claims that since 1966 almost 7,500 tons of munitions were "probably" ~~again~~ delivered to Sihanoukville, and an addition 9,595 tons "possibly" were delivered. For the comparable time period, PARK needs were estimated to total 2,254 tons.

2. The MACV estimates of arms deliveries to the VC/NVA have been subjected to the same analysis that was used [] reporting. This analysis uses all the estimates available on flows, losses and requirements, both in I and Northern II Corps ("the South") ("the North") and Southern II Corps, II and IV Corps, to arrive at an estimate of the relative importance of the overland route and the Cambodian routes in supplying the requirements of "the South."

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3. The MACV report places ^{7,481} 7,980 tons of supplies in the "probable" (most confident) category of communist arms deliveries. Since the MACV report was published, however, additional intelligence has become available that indicates that only 422 tons of munitions arrived on the WU XI in March 1968, not 3,000 tons as carried by MACV. The nature of the intelligence is such that it would appear

* Number 18-69, 29 August 1968.

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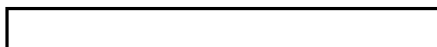
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that MACV will accept the much lower volume of 422 tons. Thus, only 4,900 tons remains in MACV's probable column.

4. MACV uses an estimate of 2,250 tons for FARK requirements, thus only 2,650 tons is available to the VC/NVA forces. 

5. Following the same methodology as used in analyzing



<u>From</u>	<u>Tons</u>	<u>Percent</u>
Laos	50,000-66,000	95 - 96
<u>Cambodia</u>	<u>2,650- 2,650</u>	<u>5 - 4</u>
Total supplies available for South Vietnam	52,650-68,650	100 - 100

5. The total volume of supplies ^{is} assumed to be divided ~~any~~ within South Vietnam according to OER's estimate of requirements. That is, 58 percent of all supplies are needed in "the North" and 42 percent are needed in "the South."

Low Range	$52,650 \times .58 = 30,537$	"the North"
	$52,650 \times .42 = 22,113$	"the South"
High Range	$68,650 \times .58 = 39,817$	"the North"
	$68,650 \times .42 = 28,833$	"the South"

Thus from 22,100 to 28,800 tons of the total volume of supplies available to South Vietnam were assignable to "the South."

Assuming that the MACV estimates are accurate and 2,650 tons of munitions reached the VC/NVA via Sihanoukville, ~~and that the total~~

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~~values of munitions available for South Vietnam were distributed evenly throughout the country, from 88 to 90 percent of the supplies available for "the South" came overland via Laos.*~~

7. Some of the deliveries listed by MACV as "possible" may have brought arms to the communists. If an extreme case is assumed (all "possible" deliveries ^{totally} reach the VC/NVA forces) of 9,595 tons, then up to 12,250 tons of munitions would have reached the communists via Cambodia**. Under this assumption, from 53 to 63 percent of "the South's" munitions would still have arrived via the Laotian overland route.

8. On balance, the latest MACV listing (as modified) of "probable" and "possible" munitions shipments to Cambodia make a less convincing case for Southern II, III and IV Corps being supplied solely via Cambodia than

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* If FARK requirements are ignored and it is assumed that the total of 4,900 tons goes to the VC/NVA forces, 79 percent to 84 percent of "the South's" munitions came via Laos.

The 12,250 tons consists of
 ** The adjusted "probable" estimate of 4,900 tons minus FARK requirements of 2,250, plus the possible category of 9,595 tons.

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Logistic Requirements and Flows:
Roadwatch Reporting, and Losses

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Methodology

1. Assume the MACV position is correct, namely, that I Corps and northern II Corps are supplied from Laos and that southern II Corps, III Corps and IV Corps are supplied solely from Cambodia. (For convenience I Corps and northern II Corps are referred to as "the North" and the remaining areas supplied from Cambodia are, "The South".)
2. reporting that during the period December 1966 through May 1969 about 21,000 of military supplies, (Classes II, IV and V) were delivered to the VC.
3. Compare this reported volume of deliveries with OER's estimated enemy requirements for the same Classes of supplies and time period.
4. From the total flow of supplies into the Laos Panhandle subtract consumption and losses in Laos to determine the volume of supplies available for use in South Vietnam (or stockpiling in Laos). Compare this amount with enemy requirements for "the North".
5. Compare the two ratios, availability ÷ requirements for the two areas.

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Computations

6. During the period December 1966 through May 1969 it is estimated that from 138,000 to 142,000 tons of supplies, excluding food, entered the Lao Panhandle. The lower estimate is based on roadwatch reports; the higher estimate is based on pilot sightings.

7. Consumption and losses in the Panhandle for the same period of time are estimated to range between 76,000-88,000 tons.* Obtaining a maximum possible spread by subtracting the highest losses from the minimum input and vice versa gives a range of 50,000 to 66,000 tons of supplies available for "the North". The requirements for this area for the relevant time period were 19,000 tons. Thus the ratio of availability of supplies to requirements (as estimated by OER) ranged from 2.6 to 3.5.

* Total enemy consumption is estimated at 53,000 tons. Enemy losses, including losses due to secondary explosions and fires which are almost certainly overstated, range from 23,000 to 35,000 tons. The lower estimate uses COACT data which the higher estimate is based on a reportedly more complete IDHS Mission summary file.

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25X1 8. [] during the relevant period 21,000 tons were delivered to the VC. It is, as stated above, assumed that these supplies were destined only for southern II, III or IV Corps or "the South". Enemy requirements (again, as estimated by OER) for this area for the relevant time period totalled 14,000 tons. Thus, the ratio of availability to requirements in "the South" was only 1.5 compared to 2.6 to 3.5 in "the North".

9. The major difference in "the North" and "South" ratios is hard to explain. It could be maintained that the air war in Laos requires a greater flow compared to requirements in "the North" than in "the South". However, there is a generous allowance for both consumption and losses in Laos, ^{Furthermore,} and the period being analyzed is long enough, almost ^{2.5} ~~three~~ years, to dampen the effect of a greater stockpiling requirement that may have existed in "the North" because of the air war. A more likely conclusion is that the original hypothesis of the analysis was wrong. That is, the ratio in "the North" is larger than in "the South" because a portion of the supplies that move into the Panhandle of Laos move south into southern II Corps and III Corps.

An Alternative

Methodology

25X1 1. [] reporting and OER's estimates of the volume of supplies available for South Vietnam are accurate. However, the MACV position is discarded as being inconsistent with the substantial differences between the ^{availability -} ~~flow-~~ to-requirement ratios in the two parts of the country.

2. Instead, it is assumed that the ratio of ^{availability -} ~~flow-~~ to-requirements will be the same for all of South Vietnam. A portion of the excess supplies in "the North" are moved to "the South" until the ratio of flow-to-requirements is the same in both areas. Then, by comparing the total volume of supplies available in "the South" [] that arrive via Cambodia it is possible to determine the share of supplies that "the South" receive by the overland route and the share received from Cambodia. Thus, under the assumptions established in this exercise it becomes possible to quantify the Cambodian-Laos logistical problem.

Calculations

3. OER's estimate of requirements for South Vietnam for the relevant period is as follows:

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	<u>tons</u>	<u>Percent</u>
"the North"	19,000	58
"the South"	14,000	42
Total	<u>33,000</u>	<u>100</u>

4. For the same period the availability of supplies for all of South Vietnam is as follows:

<u>From</u>	<u>Tons</u>	<u>Percent</u>
Laos	50,000 - 66,000	70 - 76
Cambodia	21,000 - 21,000	30 - 24
Total	<u>71,000 - 87,000</u>	<u>100 - 100</u>

5. The total volume of supplies available, 71,000 to 87,000 tons, is distributed within South Vietnam according to OER's estimate of requirements. That is, 58 percent of all supplies are needed in "the North" and 42 percent are needed in "the South". We are assuming that OER's requirements may be low and that a prudent enemy commander may have required a larger total flow than indicated by OER's "replacement requirements." On the other hand, if OER's requirements have a downward bias there is little reason to believe that they would not have the same bias through the country.

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